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EXAMINER

GIRARDI, VANESSA MARY

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/552,332	BRUS, BERNARD LOUIS	
	<b>Examiner</b>	<b>Art Unit</b>	
	Vanessa Girardi	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on June 16, 2006 (Initial Application).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-39 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **Specification**

1. The disclosure is objected to because it does not fulfill the following requisite:

*The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.*

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

For example; in the description for Figure 4, page 14, lines 8-10, the disclosure states "a field control layer (not shown) can be provided therearound. In many cases however, this layer is not necessary".

- ☐ The field control layer of the cable is understood to be (19) therefore it is shown.
- ☐ Is the field control layer necessary or is it not?
- ☐ The description pertains a device for cable ends having field control sheath and a protective sheath, yet neither of those attributes are introduced in the independent claims. Appropriate correction is required.

### **Claim Objections**

2. Claim 39 recites the limitation "a core end of the insertion bush". There is insufficient antecedent basis for this limitation within claim 39 or the preceding claims.

### **Claim Rejections - 35 USC § 112, second paragraph**

The following is a quotation of the second paragraph of 35 U.S.C. §112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

3. The overall claim structure within this application is erratic and unnecessarily ambiguous, the manner in which each element is introduced and related to every other element within the device lacks clarity and order particularly "the fixing means" of the instant invention.

Art Unit: 2833

The independent claims should introduce the "fixing means" as comprising; attribute A, attribute B, attribute C and attribute D. From which the dependent claims will further limit each attribute in its relational context within the device or material properties or shape, size etc. The most glaring of examples are pointed out in the remainder of this action, however the Applicant is ***strongly encouraged*** to readdress all claims with the objective of restructuring them in an well-ordered, cohesive manner.

4. Claim 27 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 27; the statement "*one removable spacer*" depicted in the drawings as (5) is indefinite in that it does not appear to be "removable" but rather, free to slide along the cable length [see Fig. 9] thus it is not "removable". Further clarification is required.

5. Claims 33 and 34 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 33; "*conductive contact between cable ends is provided by only inserting the cable ends*". This is not a fully formed claim.

Regarding claim 34; "*removing a spacer whereby the conductive contact between the cable ends is provided*". So now there's no need to merely insert the cable ends, one can simply remove the spacer and that will provide conductive contact between the cable ends?

Art Unit: 2833

6. Claim 39 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 39 states "*a core end of the insertion bush*" for which there is no antecedent basis and continues with "*fixing at least the earth shield, the insulating sheath, the . . .*" "fixing these attributes in what way?"

7. Claim 31 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed relationship between the "*end element*" and "*connecting device*" is unclear nor is there sufficient support in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

8. Claim 37 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The differing cable diameters are not illustrated in the drawings nor does the disclosure provide insight into the range of cable diameters enabled by this method without encroaching on previously claimed aspects of the cable.

9. Claim 38 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The manner in which the "*field control sheath*" is introduced has no context within the scope of what has been claimed in the preceding claims from which it depends.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 22, 5 and 29 are rejected under 35 U.S.C. §102(b) as being anticipated by Laudig et al. (US 3,441,659).

With respect to claim 1; Laudig et al. discloses a device for connecting two or more cable ends **10, 12** wherein each of the cable ends is constructed from at least a core **14, 22**, an insulating sheath **16, 24** and an earth shield **18, 26**, the device comprising an insertion bush **30** for inserting the two core ends, an insulator **40, 42** arranged around the insertion bush, a conductive layer **50, 52**, when in use the conductive layer is disposed in order to provide electrical contact between the tow earth shields [COL. 4, LINES 28-30], wherein fixing means **82, 84** are provided for fixing the cable ends to the device; and which in use the insertion bush connects against the cores of the cable ends to provide conductive contact between the cores [COL. 3, LINES 8-16], and in use the insulator and the conductive layer connect almost or wholly to respectively the insulating sheaths and the earth shields of the cable ends [FIG. 1].

With respect to claim 22; Laudig et al. discloses the insulator **40, 42** extends in a longitudinal direction beyond the insertion bush **30** [FIG. 5].

With respect to claim 5; Laudig et al. discloses a device for connecting a stripped cable end to an element [FIG. 4], wherein the cable **10** is at least constructed from a core **14**, an insulating sheath **16**, and an earth shield **18**, the device comprising an insertion bush **30** for inserting the core end, a sleeve-shaped insulator **40, 42** arranged around the insertion bush, wherein fixing means **82**, are provided for fixing the cable end to the device; and which in use

Art Unit: 2833

the insertion bush connects against the core so as to provide electrical contact between the core and the end element [COL. 3, LINES 8-16], and in use the insulator connects almost or wholly to the insulating sheath of the cable [FIG. 1].

With respect to claim 29; the same reasoning applied in the rejection of apparatus claim 1, *mutatis mutandis*, applies to the subject-matter of method claim 29, given the apparatus is considered inseparable from the method of (making/using) the apparatus.

11. Claims 31 and 32 are rejected under 35 U.S.C. §102(b) as being anticipated by Nelson (US 5,766,037).

With respect to claim 31; Nelson discloses a method for connecting to an end element one or more cable ends **12** comprising at least a core **16**, an insulating sheath **18**, and an earth shield **14**, the method comprising the steps of : providing an end element **10** comprising at least an insertion bush [AS SEEN IN FIG. 3 WHICH ACCEPTS **16**], a connecting end **30** and a sleeve-like insulator **70**, attaching a connecting device **58** to the end element; stripping each cable end **12** in a stepwise manner [FIG. 1] inserting each cable end **12** into the connecting device **10** until the cores connect against the insertion bush and provide conductive contact between the cores and the connecting end [FIG. 3] and the insulator connects to the insulating sheaths of the cable ends thus fixing the cable ends relative to the connecting device [COL. 1, LINES 35-37].

With respect to claim 32; Nelson discloses a method for fixing the cable ends relative to the connecting device that involves heating a component of the connecting device made from shrinkable material [COL. 3, LINES 59-64].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 28, 2-4, 23-26, 13-15 and 17-21 as well as claims 6-12 and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Laudig et al. (US 3,441,659) in view of Guzolwski (US 6,281,442).

With respect to claim 28; Laudig et al. shows the device as described in claim 1.

However Laudig et al. does not show spring means around the conductive layer.

Guzolwski shows a device in an analogous art having spring means **SS** arranged around the conductive layer **LS** which compresses that layer in a radial direction.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. with spring means as taught by Guzolwski [COL. 2, LINES 17-20] for the purpose of producing a more reliable device which connects two or more cable ends which minimizes electrical discharge at the joint regions.

With respect to claim 2; Laudig et al. shows the device as described in claim 1.

However Laudig et al. does not show a field control sheath.

Guzolwski shows a device in an analogous art employing field control sheathing **FEB**.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. and employ field control sheathing as taught by Guzolwski [COL. 2, LINES 43-51] for the purpose of producing a more reliable device which connects two or more cable ends which minimizes electrical discharge intensity at the joint regions.



With respect to claim 30; the same reasoning applied in the rejection of apparatus claim 2, *mutatis mutandis*, applies to the subject-matter of method claim 30, given the apparatus is considered inseparable from the method of (making/using) the apparatus.

With respect to claim 3; Laudig et al. shows [FIG. 9] a protective sheath **100, 102** which would almost or wholly encapsulate the device as discussed in claim 2.

With respect to claim 4; Laudig et al. as modified by Guzolwski has been discussed above in that Laudig et al. does not show any details pertaining to a field control sheath.

Guzolwski shows a the insertion bush **VE**, the insulator **IIS**, the field control layer **FEB**, the conductive layer **LS**, and the protective sleeve **SS** integrated into one element [FIG. 3].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. and integrate the entire device into one element including a field control layer as taught by Guzolwski [COL. 2, LINES 43-51] for the purpose of producing a more reliable device which connects two or more cable ends which minimizes electrical discharge intensity at the joint regions.

With respect to claim 23; Laudig et al. as modified by Guzolwski has been discussed above in that Laudig et al. does not show any details pertaining to a field control layer.

Guzolwski teaches the field control layer extends in longitudinal direction beyond the insulator [COL. 2, LINES 43-51].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. whereby the field control layer extends beyond the insulator as taught by Guzolwski with the objective of minimizing electrical discharge intensity at the joint regions thus producing a more reliable device.

With respect to claim 24; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the conductive layer **50, 52** *in conjunction with 82, 84* extends onto the cable sheathing which would encompass the bounds a field control layer.

With respect to claim 25; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the protective sleeve **100, 102** extends beyond the stripped end portion of the cable [FIG. 9].

With respect to claim 26; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the fixing means **82, 84** are close to the outer ends of the protective sleeve [FIG. 9].

With respect to claim 13; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the fixing means **82, 84** comprises a sleeve which is arranged around the conductive layer **50, 52** and shrinkable in a radial direction [COL. 4, LINES 3-9].

With respect to claims 14, 15 and 17; Laudig et al. as modified by Guzolwski has been discussed above. However Laudig et al. does not show the (protective) sleeve is manufactured from heat-activated plastic.

Guzolwski teaches the shrinkable (protective) sleeve **SS** is a heat-activated plastic requiring heating means in or close to the (protective) sleeve to cause heat-activated shrinking [COL. 1, LINES 27-34].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. and employ a heat-activated shrinkable (protective) sleeve as taught by Guzolwski with the objective of minimizing electrical discharge intensity at the joint regions thus producing a more reliable device.

With respect to claims 18-21 which will be addressed collectively; Laudig et al. as modified by Guzolwski has been discussed above. However Laudig et al. does not show the fixing means as claimed.

Guzolwski teaches the fixing means comprises an elastic sleeve **SS** arranged around the conductive layer **LS**, where "elastic" is taken to mean not rigid or constricted.

Guzolwski also teaches the fixing means is arranged around the conductive layer and both outer ends taper around the cables [FIG. 3].

Guzolwski also teaches the conductive layer **LS** is compressible in a radial direction [COL. 4, LINES 49-51]

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. and employ an elastic fixing means fashioned around the conductive layer tapering down around the cables as taught by Guzolwski with the objective of minimizing electrical discharge intensity at the joint regions thus producing a more reliable device.

With respect to claims 6, 7, and 8; Laudig et al. as modified by Guzolwski has been discussed above. However Laudig et al. does not show does not show any details pertaining to a field control sheath/layer.

With respect to claim 6; Guzolwski shows the device connecting to an end element wherein a field control sheath **FEB** is arranged around the insulating sheath such that each attribute almost or wholly connects to corresponding attributes in each cable [COL. 2, LINES 43-51].

With respect to claim 7; Guzolwski shows the insulator **SS** connects to the earth shield **SD1** of the cable [FIG. 3].

With respect to claim 8; Guzolwski shows a the insertion bush **VE**, the insulator **IIS**, the

Art Unit: 2833

field control layer **FEB**, the conductive layer **LS**, and the protective sleeve **SS** integrated into one element [FIG. 3].

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Laudig et al. and employ field control sheathing as taught by Guzolwski [COL. 2, LINES 43-51] for the purpose of producing a more reliable device which connects two or more cable ends which minimizes electrical discharge intensity at the joint regions.

With respect to claim 9; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the insertion bush **30** comprises clamping means **34, 36** for fixedly clamping the inserted core ends **14, 22**.

With respect to claim 10; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the fixing means **82, 84** engage at least one of the end of the earth shield **18, 26**, the insulating sheath and the field control sheath.

With respect to claim 11; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the clamping means **34, 36** provide relatively low resistance to a movement of the core ends **14, 22** in an insertion direction and provide a relatively high resistance to movement in the opposite direction [COL. 4, LINES 15-17].

With respect to claim 12; Laudig et al. as modified by Guzolwski has been discussed above wherein Laudig et al. shows the clamping means **34, 36** comprise a number of lips extending obliquely in the insertion direction. The clamping means of Laudig et al. involves crimping the bush which in effect produces said "lips" in the deformation of the bush.

Art Unit: 2833

Claims 35 and 36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson (US 5,766,037) in view of Laudig et al. (US 3,441,659).

Nelson shows a method for connecting to an end element one or more cable ends.

However Nelson does not show a method of preventing the earth shield from being pressed into the cable end.

Laudig et al. shows a method for connecting to an end element one or more cable ends which provides for folding the earth shield [Fig. 5] and placing a sleeve 64, 68 such that pressing of the earth shield into the cable end is prevented.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Nelson and prevent the earth shield from being pressed into the cable as taught by Laudig et al. [COL. 2, LINES 22-25] for the purpose of producing a more reliable connection at a cable end which minimizes resistive heat intensity at the joint region.

#### ***Allowable Subject Matter***

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*The following is a statement of reasons for the indication of allowable subject matter:*

With respect to claim 16; allowability resides, *at least in part*, with the prior art not disclosing, showing or teaching the heating means comprising at least one resistance wire specifically arranged on the shrinkable sleeve in combination with **ALL** the limitations of claims 1, 2, 3 and 13-15.

Art Unit: 2833

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Girardi: Telephone number (571) 272-5924.

Monday – Thursday 7 a.m. to 5:30 p.m. (EST)

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext 33.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*VG*

Art Unit 2833  
May 24, 2007

*Brigitte Hammond*

**BRIGGITE R. HAMMOND**  
**PRIMARY EXAMINER**